

What is claimed is:

1. Apparatus for inducing hypothermia in a patient's brain, said apparatus comprising:

5 a) collar means for in-contact encirclement of the neck of said patient, whereby said collar means encircling said neck of said patient is in firm contact with at least the skin region proximate the carotid artery of said patient, and

10 b) channel means integral with said collar means, said channel means substantially traversing the length of said collar means, whereby when a coolant flows through said channel means said coolant lowers the temperature of said collar means and attendantly of the blood flowing in said carotid artery resulting in cooling of the brain tissue of said patient.

15 2. The apparatus of Claim 1 wherein said collar means and said channel means comprise non-metallic fabric or plastic materials, whereby said apparatus is compatible with X-ray, MRI or CAT scan procedures when positioned about the neck of said patient.

20 3. The apparatus of Claim 1 further comprising refrigeration means supplying said coolant.

4. An article of manufacture, comprising:

a) a collar for firm placement about a patient's neck, and

25 b) a channel for conducting the flow of a coolant, said channel integral with said collar throughout the length of said collar, whereby said coolant lowers the temperature of the blood flowing in said patient's carotid artery when said collar is placed in contact with said patient's neck and said coolant is

flowing in said channel.

5 5. The apparatus of Claim 4 wherein said collar and said channel comprise non-metallic fabric or plastic material, whereby said apparatus is compatible with X-ray, MRI or CAT scan procedures.

6. The apparatus of Claim 4 further comprising refrigeration means supplying said coolant.

Sub B' 7. Apparatus for inducing hypothermia in a patient's brain, said apparatus comprising:

10 a) an endotracheal tube,
b) a toroidal shaped bladder surrounding said tube at the end of said tube for insertion into said patient's trachea,
c) inlet and outlet coolant conducting elements connected to said toroidal shaped bladder, whereby coolant
15 flowing through said inlet and outlet coolant conducting elements cools said bladder, further whereby when said endotracheal tube is inserted into said patient's trachea, said coolant in said bladder lowers the temperature of the tissues and blood vessels in contact with said bladder, said tissues and blood vessels
20 further acting as heat conducting paths from said brain to said bladder whereby the temperature of said brain is lowered.

2 8. The apparatus of Claim 7 wherein said endotracheal tube and said bladder comprise non-metallic fabric or plastic materials, whereby said apparatus is compatible with X-ray, MRI
25 or CAT scan procedures.

3 9. The apparatus of Claim 7 further comprising refrigeration means supplying said coolant.

10. A method of inducing hypothermia in a patient's brain

comprising the step of:

a) cooling said brain by lowering the temperature of the blood flowing through said patient's carotid artery.

11. The method of Claim 10 further comprising the steps of:

5 a) placing a collar firmly around said patient's neck, said collar contacting at least the skin region proximate the carotid artery, and

b) flowing coolant through a channel in said collar, whereby the blood flowing in said carotid artery is lowered in temperature.

10 *Sub B²* 12. A method of inducing hypothermia in a patient's brain comprising the step of:

a) cooling said brain by lowering the temperature of the blood flowing in blood vessels located in the rear of said patient's oral cavity.

15 *4* 13. The method of Claim 12 further comprising the steps of:

a) inserting an endotracheal tube into contact with said patient's trachea, said endotracheal tube having a toroidal bladder surrounding said endotracheal tube, said bladder being in contact with blood vessels located at the rear of said patient's oral cavity and

20 b) flowing coolant through said bladder by means of an inlet tube to said bladder and an outlet tube from said bladder, whereby said blood vessels are lowered in temperature to cool said brain.

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